but a limited range of usefulness in shock and may even be injurious, but in collapse they may be useful. In shock saline infusion raises but cannot sustain the blood pressure. Adrenalin was the only drug which was found to have a markedly beneficial effect. It raises the blood pressure in the normal animal, in every degree of shock; when the medulla is cocainized; and in the decapitated animal. Its effects are fleeting, and it should be given continuously. By means of adrenalin the circulation of a decapitated dog was maintained for ten and one-half hours. By the combined use of artificial respiration, rhythmic pressure upon the thorax, and the infusion of adrenalin, animals which were apparently dead as long as fifteen minutes were resuscitated. A pneumatic rubber suit, which produced an artificial peripheral resistance, was found to be of additional value in raising the blood pressure. By means of this apparatus, combined with the procedures just mentioned, a patient, who, from a fatal injury of his brain, had been conventionally dead for nine minutes, was partially resuscitated for thirty-two minutes, during which time a strong heart beat was noted, and he was able to move his head. W. T. L.

CHART OF THE SYMPATHETIC NERVE (Life Size). By BYRON ROBINSON, of Chicago. Chicago: E. H. Colegrove, 1904.

THE operations upon the cervical sympathetic ganglion which have been recently frequently discussed have brought this portion of the nervous mechanism prominently before the surgical world, and it follows naturally, therefore, that the anatomy of this system should be carefully understood by the profession. Robinson's chart will be found of considerable aid in this study. J. H. G.

MODERN MICROSCOPY. A HANDBOOK FOR BEGINNERS AND STUDENTS. Combining: I. Microscope and Instructions for its Use, by M. I. CROSS. II. Microscopic Objects: How Prepared and Mounted, by MARTIN J. COLE, Lecturer in Histology at Cooke's School of Anatomy. Third edition, entirely revised and enlarged, to which is added: III. Microtomes: Their Choice and Use. Chicago: W. T. Keener & Co., 1903.

THE book is not specially prepared for the physician or medical student and could be of little value to those working in the special branches of scientific medicine. There is no attempt to make the book one of reference, and most of the technical methods are given in a very elementary form. Perhaps the best portion of the book is that devoted to the microscope. Part II., which deals with the preparation and mounting of microscopic objects, is not confined to a consideration of medical subjects. Animal tissues are considered, but there are also chapters upon the preparation of crystals, botanical mounts, and entymological specimens. The metric system is not used. Many of the methods are described too briefly to be clear.

Altogether the book does not seem to be well suited for use in the modern laboratory. W. T. L.

THE STRUCTURE OF THE GLANDS OF BRUNNER. By ROBERT RUSSELL BENSLEY. Printed from Volume X. of the Decennial Publications of the University of Chicago.

THIS monograph consists of a careful histological study of the glands of Brunner of one marsupial and of nineteen placental species, microchemical and staining methods being especially applied to the solution of the problem.

After a general review of the work done on this subject, which shows the various conclusions reached by different investigators, Bensley first describes the glands of Brunner in the opossum; descriptions of these glands of the cat, dog, mink, raccoon, hedgehog, ten genera of rodents, sheep, pig, and man follow.

The results of this investigation show that there is a remarkable uniformity in the nature and structure of the glands of Brunner of many mammals. In eighteen out of the nineteen genera examined the glands are of a pure mucous type. This conclusion is based on the structure of the cells of the glands and on their staining and microchemical properties.

The structure of the cells also supports the conclusion, Bensley thinks, that they are mucous cells. He considers that they are certainly primitively cells of the same type as the pyloric cells; he does not feel, however, that Oppel's theory, which holds that Brunner's glands are developed as a farther downward growth of the pyloric glands into the intestines, can be reconciled with the facts of their distribution and of their ontogenetic development. Bensley believes it to be more probable that they are cænogenetic structures developed in mammals from the hypoblast of the midgut. He does not consider the evidence that he has brought forward to show the glands of Brunner are mucous glands, to exclude the possibility of their also forming digestive ferments in quantities too small to be recognized by present methods.

The monograph covers 146 pages and is supplemented by an extensive bibliography and six plates. G. C. R.